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TITLE: TAILORING DATA AND TRANSMISSION PROTOCOL FOR EFFICIENT
INTERACTIVE DATA TRANSACTIONS OVER WIDE-AREA NETWORKS

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CONTINUED PROSECUTION APPLICATION: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

RELATED-US-APPL-DATA:

child 09073019 A1 19980504

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child 08791249 19970130 US

parent continuation-in-part-of 08629475 19960410 US PATENTED

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parent continuation-in-part-of 08606757 19960227 US PATENTED

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REFERENCE-FIGURES: 4

ABSTRACT:

A system is provided for improving data transmission to computers and computerized appliances connected directly or indirectly to the Internet or

other wide area data network. In this system software at a proxy server uses prestored characteristics of client devices to translate data from Internet sources into a reduced-content form adapted specifically to the client device. Unique functionality for the system includes templates provided for specifying WEB page to client translation, and special scripts for prefetching pages in real-time. Systems are provided for many sorts of client devices and hosted devices.

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Application Filing Date - APD (1):

19980504

Detail Description Paragraph - DETX (4):

[0040] In this embodiment hand-held computer 13 is a high-end personal organizer, such as a Sharp Wizard.TM. personal organizer. The hand-held computer, however, can be any one of a large number of commercially available computing devices with a broad range of capabilities, including those devices known as personal digital assistants (PDAs). In other embodiments and aspects of the present invention, the computer used by a person to access and interact with the Proxy-Server in practicing the present invention need not be a hand-held, or even a portable computer in the sense the terms are used in the art. In some aspects, capabilities of a field unit according to the present invention are built into a set-top box for a TV system or directly into a TV set.

Detail Description Paragraph - DETX (17):

[0053] Proxy-Server 19, instead of displaying the downloaded data (or playing video and/or audio output, as the case may be, depending on the downloaded data), translates the data to a simpler communication protocol and sends the data to computer 13 for output over link 15 in a TCP/IP protocol. Link 15 becomes a dedicated TCP/IP pipe to and from Proxy-Server 19. Proxy-Server 19 thus acts as a proxy for computer 13, performing those functions of WEB browsing computer 13 cannot perform.

Detail Description Paragraph - DETX (20):

[0056] One of the processing tasks that has to conventionally occur at the browser's computer is processing of received data into a format to be displayed on whatever display the user has. There are, as is well-known in the art, many types of displays and many display modes. These range all the way from relatively crude LCD displays to high-resolution, multi-color displays. There are, in addition, a number of other functions that have to be performed conventionally at a user's computer to interact effectively with the WWW. For example, audio and video and some other functions typically require supplemental, or helper, applications to be installed on or downloaded to a field unit to process audio and video data and the like.

Detail Description Paragraph - DETX (21):

[0057] Most data transferred by WEB servers assumes relatively high-end displays, such as color SVGA displays as known in the art. In PDAs and digital organizers, such as those anticipated for use in the present invention, the displays are relatively low resolution, and are typically LCD in nature. In the system described with the aid of FIGS. 1 and 2 InterBrowser program 45 at the Proxy-Server and the HT-Lite NanoBrowser program at the hand-held unit cooperate in another manner as well. When one connects to the Proxy-Server the hand-held unit, through the HT-Lite NanoBrowser program, provides a signature which the Proxy-Server compares with logged signatures.

Detail Description Paragraph - DETX (24):

[0060] There are many functions other than simple WEB browsing that are desirable for a hand-held devices like those contemplated to be used with systems according to embodiments of the present invention. The typical functions for digital organizers and PDAs, for example, such as scheduling of appointments, listing phone numbers, addresses and the like, taking notes, sending faxes and E-mail and so forth, and such tasks as currency conversion, are still provided by a hand-held unit executing HT-Lite. Now, however, these functions are more interactive than previously, as data for these functions can be exchanged through the TCP/IP link with the Proxy-Server, which may access data from a variety of sources to update data for such functions.

Detail Description Paragraph - DETX (26):

[0062] To practice the invention, given an accessible WEB server configured as a Proxy-Server according to an embodiment of the present invention, one needs only to load HT-Lite NanoBrowser software on a computer and to provide Internet access for the computer, such as by a telephone modem. In many cases, candidate computers have built-in modems. In other cases, an external modem may be provided and connected. In the case of hand-held devices, such as PDAs and organizers, some have an ability to load software via a serial port, a PC card slot, through the modem extant or provided, or by other conventional means. IN some cases, all operating code is embedded, that is, recorded in read-only memory. In some of these cases, adding HT-Lite routines may require a hardware replacement. In virtually all cases of hand-held devices, however, the necessary routines can be provided.

Detail Description Paragraph - DETX (43):

[0079] At step 101 the Proxy-Server converts all of the .jpg files to a dithered bitmap format according to information associated with the user ID received from the hand-held at log-on. This ID establishes the size and resolution of the hand-held's display, for example, and the bitmap created from the .jpg files is scaled to the hand-held's display.

Detail Description Paragraph - DETX (64):

[0100] In FIG. 6 events for purposes of description begin at step 119. Modified SendMail is active. At step 121 incoming mail is received. In this modified system, there are three file systems 123, 125, and 127 for storing E-mail in different versions. At step 129 a text copy is saved in file system

information prior to transmitting to various clients.